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CENTRAL INTELLIGENCE AGENCY

INFORMATION REPORT

REPORT

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Engine Installation.

1. On 5 September 1952, the engines of the 33 IL-28s stationed at the field were in the process of being replaced. Included were those 16 planes which, in June and July 1952, were fitted with a box shaped device under the rear end of the fuselage. Only two IL-28s of this specific type were flown occasionally. The other 14 planes had not been flown since June.[1]

2. The crated turbojet engines arrived by rail and were trucked to Hangar 17 and Hangar 12 respectively where they were stored or moved to the aircraft. Each truck was loaded with two crates, similar to the ones for the German MiG-801, approximately 1.50 x 1.50 x 1.50 meters, with iron reinforcements, a lid with inscriptions and two fastening devices as well as two crates approximately 0.80 x 0.80 x 1.20 meters. Two complete jet engines were packed in four crates. The dismantled old engines were packed in the empty crates and shipped away by rail.[2]

3. Six to 8 men worked on one aircraft, and three aircraft were generally being worked on simultaneously. Work was done from 8:15 a.m. to 1:30 p.m. and from 3:30 p.m. until 5:30 or 6 p.m. when it became dark. One day was required to replace one engine. The other engine of the same plane was replaced the next day. The new engines were tested, sometimes several days after they had been installed. [redacted] an engineering officer supervised the test run. The same officer occasionally inspected the dismantling work on the aircraft. The crews, once definitely determined as being composed of two officers, one technical sergeant and a sergeant, were also present when the power plants of their aircraft were being replaced. The officers did not work.

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4. [redacted] a planned work pattern was being followed. It was observed that occasionally up to 15 men were standing around one engine, and that sometimes work was resumed on an engine which [redacted] was installed for some time. The personnel apparently worked very slowly and, in emergency cases, the workspeed could probably be increased considerably. Flying was not started, even after all the aircraft had been equipped with new engines. The aircraft were covered with tarpaulins and were parked in the snow, sometimes without any care for days.[3]

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25 YEAR RE-REVIEW

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5. In order to identify the engines of the IL-28, photographs of various types of turbojet power plants. the axial flow engines on the photographs were entirely different, because the engines of the IL-28 were fitted with combustion chambers which inclined to the exhaust pipe. the original Rolls-Royce Nene engine was definitely the type of engine installed in the IL-28. The accessories were not as well cowled as on the photograph of the Hispano version, but screws and tubings were visible just as on the photograph of the original Nene. the combustion chambers of the IL-28 engines were slightly curved and did not lead straight into the exhaust unit. Differences between the dismantled and the newly installed engines could not be determined

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6. The hoses of the accessories were blue and red in color with a diameter of about 3 cm and 2 cm respectively. Yellow markings were also seen. Details were not remembered A so-called Argus hose was not seen. The hoses were smooth and the pipings rigid.

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7. The first parts of the engine cowling to be removed were the annular cowlings protecting the intake and the exhaust pipe. Then the cover plates forward of the leading edge of the wing were removed in two parts. The adjoining lines of the cowling were on top and below the engine. The cowling aft of the wing was removed in one piece. It was not remembered how the cowling under the wing was dismantled parts of the cowling remained. The long pipe which was attached to the end of the exhaust pipe and which was probably pushed on there, was pulled off. After the fastenings had been loosened, the engine was pulled out in the flight direction by a mobile crane with a hand operated cable winch and was placed on the ground.[4]

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8. The new engine was lifted, by means of the crane, out of a crate 1.50 x 1.50 x 1.50 meters; the exhaust unit was lifted out of a smaller crate, and the two parts were assembled and installed in the plane. Then, the long pipe was attached to the exhaust unit and the cowling was fitted. any lines for the afterburning connecting engine and exhaust unit were fitted because the assembly of the long tube required very little time.

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9. Details on the engine suspensions were not obtained. the rear ends of the combustion chambers were in line with the leading edge of the wing. As seen from the front, the empty nacelle had a ring shaped suspension device from which brackets extended forward. The length and the number of these holding devices were not determined. there were four such devices available on one engine. But it was also possible that there was only one long tubular suspension which extended over the length of the nacelle and into which the power plant was pushed.[5]

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10. some intake cones with an aperture in the tip were fitted to the accessories. The two vertical brackets in the annular intake cowling held a ring in the middle of the intake opening which probably fitted the cone. some other dismantled engines observed on the ground had no cone attached. This was probably another version of the engine with the cone rigidly attached to the intake cowling. The new engines had no cone when they were lifted out of the crate. On some of them, it was observed that the cone was fitted before the engine was installed.

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Armament.

11. [redacted] the tail guns were of a smaller caliber than the nose guns. The cartridges used for the rear guns were bottle-shaped, long and slim with an overall length of more than 20 cm. They had a groove at the bottom, similar to the German infantry ammunition. The caliber was estimated at least at 20 mm. The cartridges for the nose guns were thicker and shorter, and the base of the shell was shaped like that of artillery cartridges. The caliber was more than 30 mm. 25X1

12. [redacted] the correctness of the above statements, even though there was only little time to observe the empty shells, because soldiers picked them up or caught them as soon as they were ejected from the guns. It was noticed that the tail gun ammunition was arranged at longer intervals on the belts than the ammunition for the nose guns. This fact also indicated that there were two types of ammunition used in the Il-28.[7] 25X1

13. The loading process of the guns was so noisy, that the noise of escaping compressed air could definitely not be heard. [redacted] some kind of a functioning test of the nose guns during which they were cocked at least five times, at intervals of about one second. A bottle, probably an oxygen container with a pressure reducing valve and a pressure guage and a blue cap was rolled up to the aircraft, and a thick hose was connected to a point below the front cover plate. [redacted] an explanation to his theory that an oxygen container was concerned. The color of the caps did not necessarily indicate the content of the bottle, because the Russians lost them frequently and received new caps of any color from the German personnel. Apparently they do not attach importance to this type of marking and use other systems of identification.[8] 25X1

14. The machine gun previously reported [redacted] as extending out of the nose, was observed only for a short time in two Il-28s. During the past two months only the brackets for this gun were seen in some aircraft. 25X1

15. The complete length of an ammunition belt could not be determined because there was no opportunity to observe the whole loading process. The longest portion seen was about 1.50 m long.

16. [redacted] ILLEGIB

It could traverse to the sides. The perforated jacked of the gun barrels projected about 90 cm from the turret. The length of the guns was estimated at 160 cm or more. A connection between the two barrels outside of the turret was no longer seen on any of the 33 aircraft stationed in Werneuchen.[9] The vertical slots for the gun were covered by venetian blinds which were fastened to the gun. During adjustment, the guns were held exactly in line with the aircraft center line at equal distances from the vertical center line. The angular displacement of the guns above and below was approximately 80 to 100 degrees. The maximum elevation of the guns was the normal landing position. The limits of the turret traverse to the sides was not determined. Observations made during the maintenance service indicated that the angle of traverse to the right and left was also about 80 to 100 degrees.

17. There was no new essential information obtained during the adjusting of the guns. The tail guns were adjusted in position. Horizontal adjustment was achieved by moving the plane, and vertical adjustment by corresponding movements of the target. While the guns were being adjusted, the gunner looked down into a dark painted box in front of him. The box was about 30 cm wide and was attached about 10 to 12 cm above the lower edge of the window.

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The top of the box inclined toward the gunner. Optical instruments and levers were not seen on the box. The gunner held his head about 25 to 30 cm from the inclined side of the box. From the visible part of his upper arms it was concluded that, during the adjustment his hands were held at the sides below the box. Communication with the personnel outside of the plane was by shouting.10

18. [redacted] special attention to the flaps behind the Soviet star on the rudder. At the closed position of the flap, a black vertical stripe, 1.5 to 2 cm wide was seen. [redacted] this was an opening which was not covered by the closed flap. The flap was extended before the plane taxied to the take off point, during the adjusting of the guns, and sometimes it was opened and closed during the maintenance service. It was believed that the flap was operated from the tail gunners station. Correcting previous information, [redacted], seen from behind, the flap opened 5 to 7 cm, rather than 10 cm. The assumption that there was some important mechanism is supported by the fact that the tarpaulin covering the rudder assembly was held away from the sides of the vertical fin by a metal stripe and came in contact with the skin of the tail at a rather low point. The metal stripe holding the canvas away from the fin was attached and fastened by clamps before the plane was covered by a tarpaulin. When the weather suddenly turned bad, only the cabin and the rear gunners station and the rudder were covered by tarpaulins. [redacted] the purpose of the flap but he stated that a brake was not involved. He believed rather that there was some kind of a mechanism in the vertical rudder which was connected with the tail guns.11

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19. The hemispherical tail turret was removed with the gun held in a horizontal position. The calotte with the two slits was probably not very heavy and made out of light material. It had the same silver paint as the fuselage. When the calotte was removed the two guns, and the two removable ammunition boxes could be seen. The venetion blinds fastened to the guns led above and below into the interior of the tail. Control rods for the guns were seen behind and below the ammunition boxes. [redacted] a description nor to draw a sketch. Parabolic mirrors or dipoles were not identified. It was noticed that the removed turret was hemispherical. [redacted] [redacted] additional segments which could not be seen were located in the wall to facilitate the movement of the turret. To be removed, the guns had to be shifted to the side, about 90 degrees, a position which was beyond the normal limits of the turret.10

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20. There were no hoses identified on the nose wheel, and a pipe leading to a possible wheel brake was not remembered [redacted]

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21. Rocket ammunition could not be determined. The three previously reported openings in the lower right part of the fuselage, forward of the radome, were actually cover plates. No hood-like or other projecting parts were seen at this part of the plane. [redacted] had never seen rocket ammunition and did not know the characteristics.

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22. Concerning the lights of the IL-28, [redacted] it was again noticed that the bundle of rays was very concentrated and bright in the center of the light cones and that the two light cones joined at some distance forward of the plane. The position light in the nose, fitted to the front cover plate of the nose wheel, was observed for the first time.

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23. [redacted]

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24. All IL-28s permanently or temporarily parked at the field were fitted with radar blisters. An IL-28 without a radar blister has not been noticed. The antenna between the pilots cabin and the fin was subdivided into a short and a long part. The short part next to the cabin had a connection which led into the fuselage shortly aft of the cabin. The lead in of the long part led to the rear left side of the fuselage.[12]

25. The sleeve target used to be released through a flap in the tail which was opened by a mechanism shortly after the plane had become airborne. The cable was also released through this flap. It was noticed that the aircraft which released tow targets did not have the box shaped device under the rear end of the fuselage.[13]

26. [redacted] a hand drawn battery carriage which was used during the adjustment of the guns and during maintenance service. The engines were started without an auxiliary starter unit. Air bottles with blue caps were rolled on the ground to the plane and connected to the nose gun. A carriage with two bottles filled with air [redacted] had mistaken for a welding apparatus were used for inflating of the tires. The tool kit used for the replacement of the engines measured 50 x 60 x 80 cm and had four wheels, 10 to 15 cm in diameter. During the fall of 1952, a new type of vehicle was used to ready the aircraft for take off. This vehicle, a standard two-axle truck with board sides, 1 meter high, had two wooden superstructures on the loading area. They were 80 cm high, separated by a narrow path and had circular filters facing the path. Except for the driver and the assistent driver there was no personnel on this truck. [redacted] an oxygen carriage might be concerned, but connections hoses were not seen, and the utilization of the vehicle was not determined.[14]

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27. [redacted] the pilot entering the cabin from above. The canopy opened to the right by means of hinges. The entrance hatch for the bombardier was on top of the fuselage, about 15 cm forward of the cabin. This flap opened with hinges to the left. The tail gunner entered the plane at the rear near the tail. It was observed recently that the fourth crew member who mounted the plane as second man through the entrance hatch in the tail, was not always aboard the plane. [redacted] this man was the radio operator whose head could be seen through the first of the two side windows in the tail. [redacted] the armored protection for the pilot's head which was rounded to all sides was previously mistaken [redacted] for the head of a second man in the cabin.[15]

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1. [redacted] Comment. The exchange of engines on IL-28 aircraft at Wernauchen airfield was previously reported [redacted]. Since all IL-28s at the field were equipped with new engines it is believed that a routine engine change was not in progress, but that the IL-28 was probably being reequipped either with a new series of engines or with improved power plants.

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2. [redacted] Comment. The reported dimensions of the crates deviate considerably from previous information with regard to the type and the manner of packing. According to previous information, the entire engine was shipped in one crate.

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3. [redacted] Comment. This confirms a previous report according to which 3½ hours were required for five men to dismantle one engine, and that the same amount of work could also have been accomplished by the same number of workers in two or 2½ hours. [redacted]. It is concluded that about 2½ hours are required for five to eight men to dismantle or install an IL-28 engine.

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4. Comment. T is supplements and confirms previous information. 25X1

5. Comment. See Annex 1 for installation of power plant in the wing of an Il-28. The correctness of the sketch cannot be ascertained, because the dimensions were calculated in accordance with an assumed overall length of 7.42 meters.

6. Comment. According to previous information, the intake cone was fixed to the cowling. . Probably the mounting of the intake cone varies with the different versions of the power plant.

7. Comment. This substantiates a previous statement concerning the difference in the caliber of nose and tail guns. The caliber, however, differs, from previous information. , it cannot be determined which data are correct. 25X1

8. Comment. It is believed that air bottles used to cock the guns for test loading with dummy ammunition are concerned. 25X1

9. Comment. This connecting piece was mentioned in the referenced report.

10.

11. Comment. The purpose of this flap cannot be determined.

12.

13. Comment. According to a previous report, there is a slanting tube under the rear end of the fuselage used to release the rope of the sleeve target. Aircraft without this device probably release the tow target through a door in the tail gunners station.

14.

15. Comment. This confirms previous information on the entrance hatches. . According to previous information, the crew of an Il-28 was composed of three or four men. It is improbable that the radio operator should be seated in the tail next to the gunner.

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Legend:

1 Front view of engine and wing

a Upper side of wing

b Fastening ring

c Brackets

d Side view of brackets which extend forward

2 Top view of engine cowling, the dimensions are scaled down in accordance to the overall length which is assumed to be 742 cm long

a Leading edge of wing

b Trailing edge of wing

c Ring shaped cowling

d Brackets supporting the cone. (They are shifted about 90 degrees, so they can be seen on sketch)

e Intake cone

f Turbojet power plant

g Adjoining line between pipe of power plant and long exhaust pipe

h Long exhaust pipe

i Probable location of searchlight in extended position

Legend:

The dimensions entered on sketch were given [redacted], the others were calculated on the basis of the data available. 25X1

1 Side window of tail gunner

2 Side window of second man

3 Box, 30 long and 10 to 12 cm high

4 Calotte

5 Barrel with perforated jacket, about 90 cm long

6 Breech block

7 Support between the two guns

8 Ammunition box, easily removed

9 Space filled with rods and other unidentified devices

Annex 4 [redacted] 25X1

Legend:

The dimensions entered were obtained [redacted], the others were calculated on the basis of the data available. 25X1

1 Box, 30 cm wide

2 Vertical slots, covered by Venetian blinds

3 Ammunition boxes

4 Gun barrels

5 Breech block

6 Support between the two guns